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ABSTRACT

This study relates the personal characteristics, high school experiences, and college experiences of students pursuing a baccalaureate degree to the type of institution they attended and their ethnicity. Multivariate analysis was performed on data drawn from the High School and Beyond database. Summary conclusions include the following: (1) minority students, with the exception of Asian Americans, are slightly more likely than Whites to enroll in a public institution; (2) overall completion rates are not very high for any minority group; (3) those students who began college right after high school were most likely to complete a degree; (4) students are most likely to drop out in the first semester of the first year; (5) Asian Americans, Whites, and to a lesser degree, African Americans were more likely to persist if they attended a private institution; (6) socioeconomic status did not seem to have a direct effect on the persistence of Hispanics, but did influence the other groups to varying degrees; (7) academic ability as measured on high school achievement tests had a strong effect on persistence, with the exception of African Americans; and (8) grants and family assistance were the most common forms of first-year financial aid for all ethnic groups, with the exception of African Americans who were more likely to have loans rather than family assistance. Statistical data are included on 19 tables. A 37-item bibliography is appended. (FMW)

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THE INFLUENCE OF INSTITUTIONAL CONTROL ON THE PERSISTENCE OF MINORITY STUDENTS: A DESCRIPTIVE ANALYSIS

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Prepared for the American Educational Research Association
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INTRODUCTION

For fifty years higher education researchers have been interested in undergraduate degree attainment and what has come to be called persistence. During much of the first four decades of that work, persistence was not the concern. The focus was on students who left college. The perspective of those researchers is best illustrated by their choice of adjectives to describe the phenomenon -- mortality, survival, attrition, even autopsy.

The last ten years have seen a significant increase in the study of persistence, and the word persistence has become the commonly accepted term for the phenomenon. While the more positive connotation of persistence is appealing, the reason for the increased interest in who stays in college well may be explained by one of the older terms -- survival.

It would be difficult to imagine anyone in higher education who does not find the changes projected for the student body of the future to be daunting. Students are likely to be older, non-Anglo, poorer both financially and educationally; but, of course, there won't be as many of

them. As this decade began, Lenning, Sauer, and Beal (1980) reminded us that there really are only three ways to maintain enrollment in the face of a shrinking traditional student pool. Higher education has been very successful in using two of these approaches, but not with the third.

First, you can increase the proportion of the traditional pool that attends college. There is evidence to indicate that 18-24 year-olds are not yet an endangered species on our campuses. Over 80 percent of the students enrolled full-time today are 18-24, and the mix of full-time and part-time students has changed little since 1980 (Digest of Education Statistics, 1988). Our colleges and universities have been successful in increasing the college attendance rates of this group even as the pool has begun to shrink.

Second, you can pursue non-traditional populations. Throughout the 1980's many four year institutions actively pursued these groups. Considerable headway was made with the older student who had left college or postponed entry because of other commitments. In four-year institutions, however, these students were non-traditional in age only. Less success was had with historically underrepresented ethnic minorities. The data supplied annually by the American

Council on Education (1988) indicate that only Asian Americans have grown as a group among college students, and African Americans have become even more underrepresented in this time period. Nonetheless, the non-traditional student strategies have added to enrollments.

Lenning, et al. suggest increased retention as the third strategy to maintain enrollment. It is this strategy which appears to have met with the least amount of success, or at least produced less change than the other approaches. The research on persistence has been uncommonly consistent on this issue.

In 1937, McNeely found that the overall loss of students before graduation was 45 percent. The 50-60 percent completion rate has been replicated by study after study since McNeely (McNeely 1938, Iffert 1957, Cope and Hannah 1975, Tinto 1987). It may be that looking at a longer time frame will increase that rate (Eckland 1974), but for an institution, people who leave and return or enroll part-time may not be as helpful in enrollment maintenance or budget planning than those who complete in four or five years of continuous, full-time enrollment.

Thus in the latter part of this decade we find that two strategies for maintaining enrollment have been successful, but their past success limits their potential for the future. The 18-24 population is shrinking and it becomes more difficult and costly to recruit each new student. Also, with each year, there are fewer older non-traditional students seeking to return to a four-year institution. Therefore it appears that the hope for future expansion of undergraduate enrollment lies in better retention of students once they are enrolled, including efforts to recruit and retain underrepresented minority students.

FOCUS OF THE STUDY

There is problem, however, with the latter strategy. While much can be done in the future to improve retention rates, the groups in the traditional age population that have the greatest potential for growth (African Americans, Hispanics, and native Americans) are the same groups that historically have been the least likely to persist and to complete. Therefore relying on retention to maintain enrollment requires increased attention to the situation of minority groups on campus. Such attention must begin with an attempt to describe and understand the nature of persistence behavior by various ethnic and minority groups.

The purpose of this paper is to descibe the persistencebehavior of minority students with an emphasis on similarities and differences between public and independent institutions. There is evidence to suggest that students in independent colleges and universities are more likely to complete the bachelor's degree than those in the public sector (e.g. Carroll 1989). The question for this study is whether or not the general result applies to minority students too.

In the large body of research on minority student persistence, there is very little work using institutional control as a key variable. This may be the result of two key misconceptions about independent higher edcuation.

First, it is often assumed that virtually all the minority students are concentrated in the public sector. The most recent enrollment figures indicate a different story (NIICU 1988). Minority students account for similar proportions of the enrollment in both sectors -- approximately 18 percent in the public sector and 14 percent among the independents. When broken out by ethnic group, the difference for any one group is less than one percent.

Second, because of the price diffferential, it is assumed that only the wealthy attend indpendent colleges anduniversities. Once again, the data indicate otherwise (NIICU 1988). In 1986, there was only a $2,000 difference in median income between the sectors -- $34,000 for the public sector and $36,000 for the independents.

Given the information on enrollment and income, it is important to know if the independent sector's record of higher completion extends to its minority students as well. Also, it would be instructive to compare public and private institution completion rates and the characteristics associated with those rates.

While this study is informed by theoretical research in the area of undergraduate persistence, it does not emanate from a specific theory. It is an attempt to answer an intriguing set of research questions about the conditions of persistence and completion of minority students in different types of institutions.

Recognizing the results of the previous research, the selection of variables for analysis and the necessity for additional controls beyond institutional control help to form an approach to the question. The analysis will consider

personal characteristics (ability, socioeconomic status, self concept, home language, locus of control, marital status), high school experiences (grades, test scores, aspirations, activities, courses taken, location, satisfaction) and collegiate experiences (grades, enrollment pattern, financial aid, employment).

RESEARCH OVERVIEW

Over the last fifteen years, there has been considerable growth in the body of research on minority student persistence and degree attainment, but very little work has been done using institutional control as a key independent variable. The factors that appear to influence minority students have considerable overlap with those that influence all students and one wonders if that does not apply to institutional control as well.

High school grades and admission test scores have long been associated with college completion rates (Astin 1972 and 1985, Demitroff 1974, Nettles 1984, Mingle 1987). Pantages and Creedon (1978) agree that high school grades, along with class standing, are the single best predictors of persisitence and completion. However, they warn that these factors seldom correlate with dropping out at more than .50.

In their 1987 study, Stampen and Cabrera found that academic performance in high school was the single most powerful predictor of persistence, followed by ethnic group. This finding supports Peng's (1977) finding that high school grades were more important than test scores and that race also was important, but only after socioeconomic status and sex were controlled.

There are some who question the utility of grades and test scores. Duran (1986) argues that high school grades are not a good predictor for Mexican American students because of the heterogeneity of their backgrounds and high school experiences. In a related point Olivas (1986) suggests that generational status is particularly important.

Another variable frequently cited as critical to persistence is socioeconomic status, or one of its component parts such as parental education or family income (Mingle 1987, Carroll 1989, Duran 1986, Mestre 1986, Peng 1977). Mingle found that high income students are four times more likely to complete than low income. In his review of the literature Wolfle (1983) reports that socioeconomic status, along with prior educational attainment are the strongest predictors of postsecondary attainment.

There is also a body of research on institutional effects on persistence. One area of particular importance to minority students is financial aid. The effects of aid on persistence are mixed, and vary considerably from study to study. Some studies indicate little or no influence (Astin 1975, Jensen 1981). In their 1986 study, Stampen and Cabrera found no difference in the persistence rates of aided and non-aided students. This finding may indicate that financial aid is doing its job -- providing an equal opportunity for success by removing financial constraints. In their Alabama study, however, Brewton and Hurst (1984) found a positive relationship between having aid and persistence.

Consideration of specific types of aid further clouds the picture. Astin (1975), Pantages and Creedon (1978), and Jensen (1981) all found a positive influence for scholarships. Peng and Fetters (1978) found the opposite. Renewable scholarships were found to contribute to persistence by Woodward (1988), while only grants of over $2,250 had any effect in Carroll's 1987 study.

The bulk of the evidence on loans indicates that they may have a negative effect (Astin 1975 and 1982, H. Astin and Cross 1979, Jensen 1981), but Carroll (1987) found no effect at all. Occasionally other studies will find evidence on

other types of aid. What little evidence there is indicates a positive influence for college work study (Astin 1975, H. Astin and Cross 1979, Olivas 1986).

The other major area of influence on persistence is the college environment itself and the students' experiences in that environment. There are specific variables which are found to be associated with persistence such as institutional quality (Cope and Hannah 1975, Lenning, Beal and Sauer 1980), institutional size (Astin 1975 and 1977, Tinto 1975), interaction with faculty (Tinto 1975 and 1987, Pantages and Creedon 1978, Astin 1975,1982, and 1985), or advising and counseling (Lenning, Beal, and Sauer 1980, Beal and Noel 1980, Mingle 1987).

The most prominent commonly used models of institutional effects are Tinto's (1975) academic and social integration model and Astin's (1977) involvement model. In both instances, "goodness of fit" between the student and the environment is the operative assumption. The better the fit, the more likely the student is to persist or achieve. For Tinto and those who have worked with his theory (e.g. Pascarella 1982), when all else is equal, how well the student is integrated into the college is a major determinant of persistence. There is time element involved as

well, since Tinto reports that three of every four college dropouts will leave during the first year. The importance of "goodness of fit" is associated with minority persistence by Christoffel (1986) and Munoz (1986).

Astin's approach is related but not quite the same. He does not stress the need for integration, but rather a point of identification for the individual with the institution. Students can be alienated in certain campus arenas, but still persist because their ties in other areas, such as sports, academics, or fraternities/sororities, provide sufficient involvement to maintain a connection. While this perspective generally applies, Pantages and Creedon (1978) warn that over involvement can prove to have a negative effect on persistence.

There are a few other key variables that have been associated specifically with minority student persistence. The student's aspirations have been found to influence persistence (Peng 1977, Mingle 1987). Preparation and course work in high school also seems to have a direct effect on persistence behavior (Malcom 1985, Christoffel 1986, Peng 1977). Outside school obligations to family or to work have been found to influence minority students persistence and

completion (Chacon, Cohen, and Strover 1986, Duran 1986, Astin 1977 and 1982).

DATA BASE AND METHODS

The selction of a data base is critical. The ability to generalize from many studies of persistence has been limited because the research focused on a single institution, a limited set of institutions, or an inadequate time frame. The ability to conduct a study over time using a longitudinal data base is essential but seldom possible. Finally, the opportunity to have detailed information on college attendance and financial aid are essential to basic analysis.

In an effort to address all or most of these needs, the "High School and Beyond" data base, developed by the National Center for Education Statistics, was selected. It provides information on approximately 28,000 1980 high school seniors, including data from follow-up surveys in 1982, 1984, and 1986. Data on four broad areas of the students' lives have been collected -- personal background, educational experience, work history, and family formation.

Since this data base was designed to provide information on the six year period immediately following high school,

great care was taken to gather information on college attendance and financial aid. An added advantage for this study of "High School and Beyond" is that it oversampled African American and Hispanic students, allowing for more substantial analysis of these groups. As a single source of information on college students, it is probably the most complete national data base available.

The sample abstracted for this study reflects the stated interest in bachelor's degree persistence and completion. It focuses on those students who attended a four year, baccalaureate-granting institution at some point between 1980 and 1986. Two year institutions have been eliminated because there are insufficient numbers of students attending two-year independent colleges to undertake valid comparative analyses.

It should be noted that this data base tracks a traditional college age group of students from age 17 or 18 through 23 or 24. Therefore the vast majority of the students who entered a four-year institution during the six-year time frame entered in the Fall of 1980 and as full-time students (76 percent). The remaining students entered part-time or delayed their entry points. Because these two groups of students experienced higher education in very different ways, it is important to control for entry

group, and the emphasis in the study is on the former, more traditional group.

The sample has been weighted using the appropriate weights developed by NCES. This process provides sufficient group sizes for analysis even with the application of controls. In some cases, however, even weighted numbers proved to be very small (e.g. native Americans, Asian Americans in independent institutions) and warnings will be given to the reader.

As stated above, the study is largely desciptive in nature. The primary method of analysis is crosstabulation using additive layers of control variables in an effort to identify and to account for variations in the public and independent sector populations. In addition correlational analyses have been performed and levels of relationship are indicated.

"High School and Beyond" has a large amount of data and is very detailed. This is its advantage, but it also can require careful consideration about variable construction. Defining the dependent variable, persistence, is a case in point. Just what is meant by persistence? Is it degree

completion or continuous enrollment? Is it measured by the year, by the semester, by the month?

It is a complex behavior and must be approached accordingly. It has two basic dimensions -- behavior (enrolled or not enrolled) and time (when an for how long). As a result, persistence is defined as a four category variable to capture these two dimensions. "Completers" are those students who completed a bachelor's degree. "Persisters" are continuously enrolled students who have not completed a dgree. "Stopouts" are students who enrolled, left for at least one semester, and then returned at a later date. Finally, "dropouts" are the students who enrolled, left, and have not returned.

It should be noted that the persistence variable may be constructed at any point in the six-year period under consideration. This is particularly useful because it allows for a measure of final status, which is the basic interest of the study, while also allowing for interim statuses to assess progress and to address the influence of sememster-to-semester and year-to-year phenomena such as financial aid. For example, did someone drop out because of lack of financial aid or did the student dropout and as a result not receive aid. A variable which can be defined only

at the end of six years cannot answer that question. Similarly, a persister at one point may be a drop out at another, and then a stopout, and finally a completer. The point of measurement determines the category.

The first of the two essential control variables for the study is also a constructed variable -- institutional control. It has four categories -- public, independent, public last, and independent last. "Public" identifies students who spent their entire undergraduate careers in public institutions. "Independent" does the same for independent colleges and universites. The remaining two categories indicate the sector of enrollment for the student at the point of last enrollment and indicate that the student has changed sectors during the undergraduate years. The total number of students in the latter two groups is approximately 10 percent of the sample.

The second control variable is ethnicity. The "High School and Beyond" data base provides an ethnicity variable that identifies five groups -- African Americans, Hispanics, native Americans, Asian Americans, and non-hispanic whites. As mentioned earlier, oversampling of public high schools with large Hispanic populations, Catholic high schools with

large minority populations, and alternative public schools was done intentionally to increase the numbers of African American and Hispanic students. Even with these efforts, there are sample size problems with native Americans, Asian Americans in independent institutions, and Hispanic subgroups.

An additional composite variable was developed and subsequently proved very useful. The data base provides a variable for socioeconomic status, for family income, for high school grades, and for scores on an ability test administered to all students. Each of these can be analyzed separately in relation to persistence, but there is another variable which is missing.

What happens to students with high ability from low income/SES backgrounds? Can ability overcome financial and other difficulties one would expect to affect persistence? To answer these questions, a high ability/low income-SES (HA/LSES) variable was created. Students in the lowest SES quartile and in the highest test quatile or with high school grades of A or A's and B's were identified and constitute the HA/LSES group.

The remaining variables were drawn directly from the "High School and Beyond" data base without modification. The background variables include self concept, locus of control, hours of TV watched, home language, socioeconomic status, ability test scores, parents' education, hours worked, marital status, children, and gender. The high school characteristics and experiences variables include grades, number of courses in specific subjects, remedial work, advanced coursework, participation in TRIO programs, school location, hours on homework, activities, importance of college expense and concern about financial aid, and postsecondary plans. The collegiate experiences variables include enrollment information, institutional control, satisfaction with college, residence, college grades, major, types and amounts of financial aid, hours worked, tutoring and counseling, and hours of TV watched.

FINDINGS

Who Attends and Persists?

Among 1980 high school seniors, approximately two of three attended some type of postsecondary education within six years of high school graduation. Between 1980 and 1986, 1,385,661 students attended a four-year college or

university. Some 76 percent (1,039,000) started full-time in fall 1980 and the remainder entered part-time or at a later date.

The relationship of college attendance to ethnic group representation in high school varied (Table 1). Whites and Asian Americans attended four-year institutions at rates higher than their representation in the high school population, while African Americans, native Americans, and Hispanics were underrepresented. Controlling for institutional control, whites were more likely to attend independent institutions and minority students were more likely to attend public institutions. It should be noted that the differences in both these instances are not exceptionally large.

By turning the question around and asking for the percentage of each ethnic group attending public and independent colleges, however, a clear difference emerges for one group (Table 2). Asian Americans are much more likely to be found in the public sector. Only one of eight (12.6 percent) spent an entire undergraduate career in independent institutions. This compares to one of five for African Americans, native Americans, and Hispanics, and one of four whites.

TABLE 1

1980 HIGH SCHOOL AND COLLEGE ENROLLMENT PERCENTAGES
BY ETHNICITY AND COLLEGIATE INSTITUTIONAL CONTROL

Ethnicity	High School	Attend 4-Year College	Attend Independent Institution	Attend Public Institution
Hispanic	5.8%	4.2%	3.6%	4.7%
Native American	.8%	.6%	.5%	.7%
Asian American	1.6%	2.3%	1.2%	2.3%
African American	12.1%	10.8%	9.3%	11.9%
White	79.7%	82.1%	85.8%	80.3%

TABLE 2

FOUR-YEAR COLLEGE ENROLLMENT PERCENTAGES
BY ETHNICITY AND INSTITUTIONAL CONTROL

Ethnicity	Independent Only	Public Only	Attended Both
Hispanic	20.5 %	69.6%	9.9%
Native American	20.5%	73.6%	5.9%
Asian American	12.6%	71.0%	16.4%
African American	21.0%	68.6%	10.4%
White	25.4%	61.5%	13.1%
ALL STUDENTS	24.4%	62.9%	12.7%

TABLE 3

COLLEGE MATRICULATION GROUP
BY ETHNICITY AND INSTITUTIONAL CONTROL

Ethnicity	Independent Institutions	Public Institutions	All Institutions*
Hispanic			
On track	59.9%	68.0%	66.7%
Off track	40.1%	32.0%	33.3%
Asian American			
On track	74.6%	74.9%	77.8%
Off track	23.6%	25.1%	22.2%
African American			
On track	73.1%	66.1%	68.6%
Off track	26.9%	33.9%	31.4%
White			
On track	73.1%	74.6%	73.9%
Off track	26.9%	25.4%	26.1%

NOTES: On track students are those who began in fall 1980 full-time at a four-year institution.

Off tack students delayed entry, began part-time, or did not enter a four-year institution.

* All Institutions includes students who transferred between institutional control groups.

Whites and Asian Americans are more likely to start college "on track" -- full-time, at a four-year institution, in the fall after high school graduation (Table 3). Only two of three African Americans and Hispanics begin in this pattern. Once again, there are exceptions when institutional control is considered. In the independent sector approximately three of four students start on the traditional track, except for Hispanics who are likely to start on track only six of ten times. The public sector shows virtually the same pattern as does the overall student group.

The overall completion rate six years after high school is low -- only 41 percent for all students. However, there must be some control for who started on track after high school and who did not. The distinction is quite dramatic. The on-track students completed at a 46 percent rate while only 23 percent of the others have finished. Of course there is a time censor on the data base and that second group should increase its percentage somewhat in the future. In fact, overall, more people have dropped out (45 percent) than completed. This is not the case for on track starters, but their drop out rate is still over 40 percent (Tables 4 and 5).

TABLE 4

SIX-YEAR PERSISITENCE RATES BY ETHNICITY

Ethnicity	Completers	Persisters	Stopouts	Dropouts
Hispanic	20.4%	9.3%	15.9%	54.4%
Native American	31.8%	.5%	6.3%	61.4%
Asian American	41.5%	12.8%	8.5%	37.2%
African American	23.9%	3.2%	9.6%	63.3%
White	43.9%	4.2%	10.4%	41.5%
ALL STUDENTS	40.6%	4.5%	10.5%	44.5%

TABLE 5

SIX-YEAR PERSISTENCE RATES
BY ETNICITY AND INSTITUTIONAL CONTROL
FOR STUDENTS WHO BEGAN ON TRACK

Persistence Status	Hispanic	Asian American	African American	White	All Students
Completers					
Indpendent	24.9%	58.0%	31.4%	57.6%	54.2%
Public	23.3%	44.7%	25.9%	46.0%	42.7%
Persisters					
Independent	1.6%	5.0%	0.2%	2.8%	2.5%
Public	14.1%	11.0%	5.5%	5.7%	6.2%
Stopouts					
Independent	11.6%	2.0%	3.1%	4.5%	4.6%
Public	13.6%	8.8%	8.6%	6.9%	7.4%
Dropouts					
Independent	61.8%	35.0%	65.4%	35.1%	38.7%
Public	49.0%	35.4%	59.9%	41.4%	43.7%

As low as these overall numbers may seem there is worse news when ethnic groups are viewed separately. The overall completion rates for African Americans and Hispanics is approximately one-half of that of whites and Asian Americans.The situation does have a small silver lining for Hispanics because one of four is still enrolled but has not completed. Unfortunately that figure is only one of eight for African Americans (Table 4).

Because of the time factor, students who started on track provide the better picture of completion. Overall, there is a significant advantage to the independent sector of almost 12 percent (54.2 percent vs. 42.7 percent). While there is a slight improvement for African Americans and Hispanics, there completion rates are still only about one of four. It is the Asian Americans and the whites who make noticeable gains while the African Americans and Hispanics change very little. The picture is exaggerated further when institutional control is considered. The completion rates in the independent sector are higher for all groups, but only significantly so for Asian Americans and whites (Table 5).

The dropout rates decrease slightly for all groups who start on track, but not significantly. When public and independent institutions are compared, however, there is a

clear difference for Hispanics. They are much more likely to dropout in the independent sector (62 percent). The difference is a function of the "persister" category in which only 2 percent of the Hispanics in the independent sector are found compared with 14 percent in the public sector. In fact this pattern of low "persister" percentage in the independent institutions holds across all ethnic groups (Table 5).

The overall picture we have from these data is one of genrally lower completion than one might expect, although Asian Americans and whites seem to complete at the rates indicated in previous studies of persistence. The truly troubling data are those on African American and Hispanic students. Not only is their completion rate only half of the other two groups, but even controlling for starting point in college and institutional control has no significant positive effect on the completion rates of any subgroup of African Americans or Hispanics.

The vast majority of students who have not completed within six years have dropped out. With the possible exception of Hispanics in the public sector, they are not doggedly working on their degrees over a longer period of time. It may be that some dropouts will become stopouts over

the next six years, but currently stopouts are only a small percentage of the students, except among Hispanics.

If one looks at enrollment patterns by semester, certain aspects of persistence behavior become apparent (Table 6). For all students, the first semester is the most important point along the persistence trail. Approximately 18 percent of the students will leave during this semester. Asian Americans are less likely to leave, especially in the public sector, and African American students are more likely to leave early, particularly if they are enrolled in the public sector.

In fact, by the beginning of the second year after high school (what should be their third semester), approximately one-quarter of the African American and Hispanic students, and one-fifth of the white students are dropouts. For African Americans and Hispanics, only two of three students who started have maintained continuous enrollment. Only seven of ten white students have maintained continuous enrollment. Once again, however, the Asian Americans are significantly different. Just 15 percent have left the traditional track at this point and less than 10 percent have dropped out. In fact, 89 percent remain on track in the public sector.

TABLE 6

SEMESTER-TO-SEMESTER PERSISTENCE RATES
BY ETHNICITY AND INSTITUTIONAL CONTROL

HISPANIC

Semesters	Completers	Persisters	Stopouts	Dropouts
First				
Independent		81%	19%	
Public		82%	18%	
Second				
Independent		79%	4%	17%
Public		78%	5%	18%
Third				
Independent		61%	13%	27%
Public		67%	7%	26%
Fourth				
Independent		57%	20%	23%
Public		64%	8%	27%
Fifth				
Independent		43%	22%	35%
Public		58%	15%	27%
Sixth				
Independent		40%	22%	38%
Public		57%	16%	27%
Seventh				
Independent	.6%	37%	23%	39%
Public	.7%	53%	16%	30%
Eighth				
Independent	.8%	36%	30%	33%
Public	.7%	47%	15%	37%
Ninth				
Independent	10.0%	12%	11%	67%
Public	5.0%	33%	13%	49%
Tenth				
Independent	11.0%	11%	13%	65%
Public	6.0%	27%	15%	52%
Eleventh				
Independent	16.0%	4%	11%	69%
Public	12.0%	17%	17%	54%
Twelveth				
Independent	19.0%	2%	10%	69%
Public	20.0%	11%	17%	52%

TABLE 6
(Cont.)

SEMESTER-TO-SEMESTER PERSISTENCE RATES
BY ETHNICITY AND INSTITUTIONAL CONTROL

ASIAN AMERICANS

Semesters	Completers	Persisters	Stopouts	Dropouts
First				
Independent		87%	13%	
Public		[illegible]	6%	
Second				
Independent		[illegible]	[illegible]%	8%
Public		92%	2%	6%
Third				
Independent		82%	12%	6%
Public		89%	3%	8%
Fourth				
Independent		82%	9%	10%
Public		88%	3%	9%
Fifth				
Independent		80%	3%	16%
Public		78%	9%	13%
Sixth				
Independent		80%	3%	16%
Public		77%	9%	14%
Seventh				
Independent		79%	4%	17%
Public		71%	12%	17%
Eighth				
Independent		76%	7%	17%
Public		71%	11%	18%
Ninth				
Independent	17%	46%	3%	34%
Public	5%	51%	11%	32%
Tenth				
Independent	20%	43%	3%	34%
Public	9%	46%	13%	32%
Eleventh				
Independent	34%	21%	11%	34%
Public	27%	25%	18%	30%
Twelveth				
Independent	54%	4%	2%	41%
Public	38%	15%	10%	37%

TABLE 6
(Cont.)

SEMESTER-TO-SEMESTER PERSISTENCE RATES
BY ETHNICITY AND INSTITUTIONAL CONTROL

AFRICAN AMERICANS

Semesters	Completers	Persisters	Stopouts	Dropouts
First				
Independent		82%	18%	
Public		76%	24%	
Second				
Independent		79%	5%	16%
Public		69%	6%	25%
Third				
Independent		69%	10%	21%
Public		62%	12%	26%
Fourth				
Independent		66%	10%	23%
Public		59%	13%	28%
Fifth				
Independent		59%	15%	26%
Public		50%	19%	30%
Sixth				
Independent		55%	14%	31%
Public	.4%	49%	20%	30%
Seventh				
Independent		51%	18%	31%
Public	.5%	45%	18%	36%
Eighth				
Independent		51%	17%	32%
Public	1.0%	42%	18%	39%
Ninth				
Independent	15.0%	15%	8%	63%
Public	10.0%	18%	10%	62%
Tenth				
Independent	17.0%	10%	9%	64%
Public	13.0%	15%	10%	61%
Eleventh				
Independent	23%	2%	7%	68%
Public	20%	8%	11%	61%
Twelveth				
Independent	26%	.5%	5%	69%
Public	24%	4.0%	9%	63%

TABLE 6
(Cont.)

SEMESTER-TO-SEMESTER PERSISTENCE RATES
BY ETHNICITY AND INSTITUTIONAL CONTROL

WHITE

Semesters	Completers	Persisters	Stopouts	Dropouts
First				
Independent		82%	18%	
Public		84%	16%	
Second				
Independent		79%	3%	18%
Public		79%	3%	18%
Third				
Independent		71%	10%	19%
Public		71%	8%	21%
Fourth				
Independent		69%	10%	21%
Public		69%	9%	22%
Fifth				
Independent		63%	15%	21%
Public		62%	15%	23%
Sixth				
Independent		62%	15%	23%
Public		60%	16%	24%
Seventh				
Independent	.8%	58%	17%	24%
Public	.6%	56%	17%	26%
Eighth				
Independent	1.0%	57%	17%	25%
Public	2.0%	53%	17%	29%
Ninth				
Independent	27.0%	17%	11%	45%
Public	14.0%	27%	12%	46%
Tenth				
Independent	31.0%	15%	11%	43%
Public	20.0%	21%	13%	46%
Eleventh				
Independent	38.0%	9%	12%	41%
Public	30.0%	11%	14%	45%
Twelveth				
Independent	50.0%	3%	7%	41%
Public	40.0%	5%	11%	45%

The decrease in the traditional enrollment pattern group continues throughout the first four years in a more or less regular way for all groups except one. Hispanic students appear to reach a major roadblock between the end of the second year and the beginning of the third. "Persisters" drop from 57 percent to 43 percent in the independent sector and from 64 percent to 58 percent in the public. Where they go varies dramatically by sector. In the independent sector the change appears in the form of dropouts whose numbers rise by almost the same amount that persisters have dropped. In the public sector, however, the increase is in the stopout category indicating that there is a flow back into the system which is not apparent in the independents.

While there is a very small group of early completers, it appears that most students finish during the fifth year. After four years, fewer than 20 percent of the students have completed, with the exception of whites in the independent sector (27 percent). The largest group in the fourth year remains the persisters, although Hispanics are more evenly distributed among persisters, stopouts, and dropouts. Any thought that the traditional four-year undergraduate time frame remains the dominant mode is clearly contradicted by these data for all ethnic groups.

Will Additional Controls Affect the Patterns?

All of the previous descriptions controlled only for staring point and institutional control, but the review of the literature on persistence indicates that several additional factors could affect the general picture that has emerged. If no further controls were added, the assumption that independent colleges and universities have a positive influence on persistence for all minorities, with the possible exception of Hispanics, would seem to be supported.

However, there is a consensus in the literature that ability, represented by high school grades and admission test scores, and the students' socioeconomic background could make a difference. With respect to the instutional sectors, the common wisdom is that different persistence patterns are found because independent colleges and universities enroll high ability, high SES students and public institutions have a more diverse student body in both those areas.

First it should be noted that because these students are going on to college, they are more likely to have high ability and high SES regardless of sector. Overall, 65 percent fall in the top half of the SES distribution in the sample, 71 percent in the top half on the ability test, and

50 percent in the A or A's and B's categories of high school grades (Table 7).

There are, however, clear differences by ethnic group (Table 8). About two-thirds of the African American (68 percent) and Hispanic (64 percent) students are from families in the lower half of the SES range. The situation is virtually reversed for whites and Asian Americans. In fact in the lowest SES quartile, there are two African American and Hispanic students for each Asian American and four for each white student.

The difference in socioeconomic background of students in public and private colleges is somewhat surprising in that the differences are minimal (Table 9). Hispanic and white students from the lowest SES quartile are found in the same percentages in both sectors (44 percent and 10 percent respectively). There are slightly more low quartile Asian Americans in the independent sector and slightly more African Americans in the public. Looking at the bottom half of the SES range, all the differences disappear, except for a slight advantage to Hispanics in the independent sector.

At the top end of the range, the results are also mixed for the sectors. While there are more high SES Asian

TABLE 7

DISTRIBUTION OF SOCIOECONOMIC STATUS, HIGH SCHOOL GRADES, AND ACADEMIC ABILITY TEST SCORES BY QUARTILE FOR ALL STUDENTS

	Low Quartile	Second Quartile	Third Quartile	High Quartile
Socioeconomic Status	15%	20%	26%	39%
* High School Grades	0%	8%	42%	50%
Academic Ability Test Score	10%	19%	29%	42%

NOTE: * High school grades are divided into A or A/B, B or B/C, C or C/D, and below D.

TABLE 8

SOCIOECONOMIC STATUS BY ETHNICITY

Ethnicity	Low Quartile	Second Quartile	Third Quartile	High Quartile
Hispanic	44.0%	20.1%	17.7%	18.3%
Native American	31.6%	17.2%	13.7%	38.2%
Asian American	22.6%	18.1%	27.2%	32.1%
African American	44.6%	23.5%	18.0%	14.1%
White	10.3%	19.2%	28.5%	41.9%

TABLE 9

SOCIOECONOMIC STATUS BY ETHNICITY AND INSTITUTIONAL CONTROL

Ethnicity	Low Quartile	Second Quartile	Third Quartile	High Quartile
Hispanic				
Independent	43.4%	24.3%	17.2%	15.1%
Public	44.0%	18.9%	17.9%	19.3%
Asian American				
Independent	26.1%	20.7%	8.1%	45.2%
Public	22.0%	17.7%	30.6%	29.8%
African American				
Independent	39.9%	28.4%	17.3%	14.4%
Public	46.1%	21.9%	18.2%	13.9%
White				
Independent	10.3%	17.6%	[illegible].8%	46.2%
Public	10.3%	19.9%	29.7%	40.1%

Americans and whites in the independent sector, there is no difference for African Americans and a slight advantage to the public sector among Hispanics.

Given these findings, one would not expect to find differences in persistence patterns between sectors solely because of the socioeconomic status of each sector's students (Table 10). Looking at persistence for low SES students by ethnicity, one finds no sector differences in completion for Hispanics, an advantage to African Americans and Asian Americans in the independent sector, and an advantage to whites in the public sector. Considering the lower half of the SES range, the relationship remains the same for Hispanic and African American students, is even more advantageous in the independent sector for Asian Americans, and switches for whites so that the independent sector becomes more advantageous. High SES students are more likely to complete in the independent sector regardless of ethnicity.

Among the non-completers, there are some interesting relationships too. For both Hispanic and white students in the lowest SES quartile, there are almost as many stopouts as completers after six years in the independent sector. Also, the dropout rate for low SES students is virtually the same (between 52 and 58 percent) regardless of ethnicity or

TABLE 10

PERSISTENCE STATUS BY SOCIOECONOMIC STATUS, ETHNICITY, AND INSTITUTIONAL CONTROL

	Completers		Persisters		Stopouts		Dropouts	
	Ind	Pub	Ind	Pub	Ind	Pub	Ind	Pub
Hispanic								
Low SES	23%	23%	2%	8%	20%	12%	55%	58%
2nd quartile	30%	31%	2%	17%	8%	8%	60%	43%
3rd quartile	26%	34%	1%	10%	13%	9%	60%	47%
High SES	27%	21%	1%	15%	1%	15%	71%	49%
***Asian American**								
Low SES	35%	25%	0%	5%	9%	13%	56%	58%
2nd quartile	65%	38%	0%	19%	0%	1%	35%	43%
3rd quartile	0%	47%	0%	13%	0%	10%	100%	30%
High SES	78%	57%	3%	16%	0%	12%	19%	15%
African American								
Low SES	32%	24%	0%	8%	3%	9%	65%	58%
2nd quartile	26%	20%	0%	8%	2%	10%	72%	62%
3rd quartile	37%	31%	0%	4%	6%	14%	57%	51%
High SES	56%	39%	1%	2%	4%	2%	39%	57%
White								
Low SES	25%	36%	1%	3%	21%	9%	53%	52%
2nd quartile	47%	32%	3%	10%	5%	5%	46%	53%
3rd quartile	56%	48%	4%	4%	3%	8%	36%	40%
High SES	66%	52%	3%	6%	2%	8%	29%	34%

NOTE: * The sample size of independent sector Asian Americans in each SES category is quite small.

sector, with one exception. Almost two of three African American students in the independent sector are dropouts.

Therefore SES by itself does seem to influence persistence with higher SES students more likely to complete. Because Asian American and white students are more likely to be high SES, their overall completion is likely to be higher, and this may influence the independent sector's performance. However, when one controls for SES and ethnicity, the independent sector still holds it own or exceeds the performance of the public sector.

Perhaps the difference in rates is influenced more by academic ability than by SES (Table 11). There is a clear pattern of increased completion and higher scores on the academic ability test administered to the students with one very dramatic exception. High ability African American students in both public and independent institutions are the second least likely quartile to complete. Only low ability students complete at a lower rate than high ability students. As one would expect, these students drop out at very high rates (69 percent in the independents and 57 percent in the publics). Such a loss of academic talent is catastrophic.

TABLE 11

PERSISTENCE STATUS BY TEST SCORE, ETHNICITY, AND INSTITUTIONAL CONTROL

	Completers		Persisters		Stopouts		Dropouts	
	Ind	Pub	Ind	Pub	Ind	Pub	Ind	Pub
Hispanic								
Low score	2%	11%	0%	5%	20%	10%	79%	73%
2nd quartile	25%	23%	5%	11%	0%	13%	70%	53%
3rd quartile	17%	29%	1%	13%	2%	19%	80%	40%
High score	70%	40%	1%	22%	25%	5%	26%	32%
***Asian American**								
Low score	0%	13%	0%	7%	50%	28%	50%	53%
2nd quartile	37%	39%	0%	21%	0%	14%	63%	27%
3rd quartile	50%	43%	0%	17%	0%	10%	50%	30%
High score	78%	59%	10%	10%	0%	8%	12%	23%
African American								
Low score	18%	17%	0%	4%	4%	11%	78%	68%
2nd quartile	37%	27%	0%	8%	6%	14%	57%	51%
3rd quartile	55%	30%	1%	7%	4%	5%	40%	58%
High score	30%	24%	1%	12%	0%	8%	69%	57%
White								
Low score	26%	18%	0%	14%	2%	10%	72%	57%
2nd quartile	39%	35%	1%	5%	0%	6%	61%	55%
3rd quartile	53%	40%	3%	5%	10%	9%	34%	46%
High score	64%	56%	5%	5%	3%	8%	28%	31%

NOTE: * The sample size of independent sector Asian Americans in each test quartile is quite small.

Regardless of institutional type or ethnic group, low ability students are significantly less likely to complete than other ability groups. In the low ability group, students either complete or drop out. Only among Hispanics is there a sizeable group of stopouts.

In the case of ability, there are clear differences between the two sectors. Low ability Hispanic and Asian American completers are non-existent in the independent colleges and universities. However, there is no difference between sectors for African Americans and an advantage to low income whites in the independent sector. Sector differences for Asian Americans and Hispanics have begun to even out by the time one reaches the midpoint of the ability range, and there is an advantage to the independent sector for African Americans and whites. The advantage to the independent sector spreads to all ethnic groups by the highest ability quartile. With the exception of African Americans discussed earlier, there are very high completion rates for all ethnic groups at high ability levels (Hispanics-70 percent; Asian Americans-78 percent; and whites-64 percent). The most successful group is the high ability Asian American in independent colleges and universities whose dropout rate is only 12 percent after six years. No other group has less than twice that percentage.

The case for the importance of academic ability is clear and even stronger than the case for the influence of socioeconomic status. Low ability students are very likely not to complete a degree, and much more likely to drop out. If ability is a key to persistence, what is the combined effect of both ability and SES on persistence for minorities in each sector?

To look at this question, the high ability/low SES variable (HA/LSES) was created. Although the previous discussion of ability focused on the academic ability test taken by students, there is some concern that test may not be the best measure of ability, especially for minority students. As mentioned earlier, 71 percent of the students scored in the top half on the test, and 50 percent had superior high school grades. Obviously, there is not a perfect correlation between the two measures. Therefore, they were combined to create the ability component of the scale. SES was used because it is a factor that includes a heavy weighting for income, but also parental education and material possessions.

The HA/LSES student is relatively rare among four-year college students (Table 12). Only 8.7 percent of the study's sample qualified (about 120,000 students). Their

TABLE 12

DISTRIBUTION OF HIGH ABILITY-LOW SOCIOECONOMIC STATUS STUDENTS BY ETHNICITY

Ethnicity	Number	Percentage of Ethnic Group
Hispanic	8,869	15.2%
Native American	1,170	14.4%
Asian American	2,923	9.4%
African American	23,355	15.7%
White	83,772	6.4%
ALL STUDENTS	120,089	8.7%

distribution between sectors is the same as the overall distribution -- 22 percent independent and 78 percent public. These students represent 10 percent of the students in public institutions and 7 percent of those in independent colleges and universities. As one would expect minority students are more likely to fit into this category with the percentage of HA/LSES among African Americans and Hispanics about two and a half times higher than the percentage among whites and 50 percent more than among Asian Americans.

There are significant differences between HA/LSES and non-HA/LSES students, especially when ethnicity is considered (Table 13). In general, non-HA/LSES students are slightly more likely to complete, particularly in the independent sector as a result of the larger number of non-HA/LI students from high ability and high SES backgrounds. On the other hand, the dropout rates of these students are the same as the other students.

Ability seems to overcome students' low SES background for African Americans and Hipanics. HA/LSES students are more likely to graduate than their classmates. The picture is more mixed for Asian Americans and whites depending on institutional control. In fact control has a major influence on the persistence pattern of HA/LSES students.

TABLE 13

PERSISTENCE STATUS OF ON-TRACK STUDENTS
BY HIGH ABILITY-LOW SES STATUS, ETHNICITY,
AND INSTITUTIONAL CONTROL

	Completers		Persisters		Stopouts		Dropouts	
	Ind	Pub	Ind	Pub	Ind	Pub	Ind	Pub
Hispanic								
HA-LSES	50%	30%	1%	9%	6%	11%	43%	50%
Other	22%	22%	2%	15%	12%	14%	64%	49%
Asian American								
HA-LSES	100%	28%	0%	5%	0%	5%	0%	62%
Other	53%	47%	6%	12%	2%	9%	39%	31%
African American								
HA-LSES	40%	32%	0%	12%	0%	9%	60%	47%
Other	30%	24%	0%	4%	4%	9%	66%	63%
White								
HA-LSES	49%	48%	1%	7%	17%	6%	33%	40%
Other	58%	46%	3%	6%	4%	7%	35%	42%
ALL STUDENTS								
HA-LSES	49%	42%	1%	8%	13%	7%	38%	43%
Other	55%	43%	3%	6%	4%	7%	39%	44%

NOTE: * The sample size of independent sector Asian Americans HA-LSES is quite small (n=316).

Among Hispanic students, only 22 percent of the non-HA/LSES students complete regardless of sector. HA/LSES students in the public sector increase that rate to 30 percent, but in the independent sector half of these students complete. That figure doubles the performance of low SES Hispanics in the sector. Although the sample size in the independent sector requires some caution, the Asian Americans are even more striking. Every HA/LSES student in the independent sector completed, which is almost twice the non-HA/LSES rate in the sector. In the public sector, fewer than three of ten graduated compared with half the non-HA/LSES. For African American students, there is an advantage to the independent sector but it is not as dramatic as for the others. In both sectors there is a small advantage to the HA/LSES student. HA/LSES students fare less well comparatively among white students. There is no difference between sectors, but almost half of the students complete. This is similar to the non-HA/LSES completion rate at public institutions, but somewhat less than the rate at independent colleges and universities.

The drop out patterns for HA/LSES students are somewhat different from the other students. Hispanic HA/LSES students are less likely to drop out in the independent sector, but there is no difference in the public sector. African

American HA/LSES students are much less likely to drop out in the public sector and only slightly less likely in the independent sector. There is really no difference between HA/LSES and non-HA/LSES white students, but independent college students are less likely to drop out.

Among students who still are pursuing their degrees, HA/LSES are somewhat less likely to be continuing their studies. This is particularly true in the independent sector with the exception of white HA/LI students who stop out. Also, as noted earlier, Hispanic students are more likely to continue and this is particularly true of public sector students and non-HA/LSES students.

Overall, the combination of high ability and low SES seems to have an interaction with institutional control for some ethnic groups. The most dramatic cases are Hispanic and Asian American students in the independent sector. There is also an adavantage to African American students but it is not as substantial.

Does first year financial aid make a difference?

It is now clear that ability and socioeconomic status influence persistence patterns. One of the primary purposes

of financial aid is to remove, or at least diminish the effect of family income and SES. This is particularly important in the critical first year when the single largest group of students leave the system.

There are different patterns in each institutional sector, largely as a result of the higher price to the student at independent colleges and universities (Table 14). It is interesting to note, however, that those differences are not as dramatic as one might expect, and they are more pronounced in areas like college work-study and institutional grants.

The largest difference in the percentage of those receiving grants in the first year of college is among white students. They are much more likely to receive a grant in the independent sector. More Asian American also receive grants in the independent sector but the difference is not significant, while Hispanics have a similar situation in the public sector. There is no real sector difference for African Americans.

Asian American and white families are more likely to provide aid to students. This should not be surprising given

TABLE 14

PERCENTAGE RECEIVING FIRST-YEAR FINANCIAL AID SUPPORT
BY TYPE OF SUPPORT, ETHNICITY, AND INSTITUTIONAL CONTROL

	Grant	Institutional Grant	Loan	Work-Study	Family
Hispanic					
Independent	51.1%	25.8%	25.5%	24.3%	37.9%
Public	56.6%	19.1%	17.0%	14.7%	34.0%
Asian American					
Independent	49.6%	38.2%	34.9%	21.0%	47.6%
Public	42.1%	13.8%	16.9%	3.2%	56.3%
African American					
Independent	68.9%	32.8%	43.4%	31.0%	33.9%
Public	66.4%	13.2%	24.5%	25.3%	32.8%
White					
Independent	49.9%	50.5%	45.1%	19.8%	49.7%
Public	36.9%	19.6%	27.5%	9.6%	53.5%

the SES data discussed earlier. Just less than half of the white students in both sectors and Asian Americans in the independent sector received aid. The highest level of parental assistance was for Asain Americans in the public sector (57 percent). Hispanic and African American families could provide support to only one of three students, and this was consistent across sectors.

The students most likely to receive a grant in the first year regardless of sector are African Americans. Two of three are grant recipients. In the independent sector, approximately half of the students in each of the remaining ethnic groups receive a grant. In the public sector there is a clear hierarchy with African Americans first, Hispanics next (57 percent), Asian Americans (42 percent), and finally whites (37 percent).

White students are most likely to receive institutional grants in the first year in both sectors, although this is most pronounced in the independent colleges and universities 51 percent). Students in the independent sector are more than twice as likely to receive an institutional grant with the exception of Hispanics. In the public sector fewer than one of five students receive institutional grants regardless of ethnic group.

For all students the next most prolific type of aid is a loan. In both sectors, African American and white students are the most likely recipients, with almost twice as many of these students receiving grants in the independent sector. Over one-third of the Asian American students in the independent sector and one of four Hispanics in that sector took out a loan in their first year.

College work-study is used most frequently by Hispanic and African American students in both sectors. In fact, one-quarter of the African American students in public institutions receive CWS and more than three of ten in independent colleges and universities. African American students have the highest or second highest level of participation in every financial aid source except for family support.

The participation level in various types of aid varies for each ethnic group and by institutional control. In the independent sector, Hispanics rely most on grant support and then family. Loans, CWS, and institutional grants are a distant third. Asian Americans rely first on both grants and family support and least on CWS. African Americans are most involved in grant support and then loans. The other sources are significantly lower but at least one of three students

receives each kind of aid. For white students, grant money and parental support rank highest with institutional grants first. Loans are only slightly lower, while one in five receives CWS.

In the public institutions, grants and family are the most used sources for African Americans and Hispanics, although grants are more important for African Americans than for Hispanics. Institutional grants are the least common source for African Americans, while the remaining three sources are of equal but less importance to Hispanics. For both Asian Americans and whites, family support is the most common aid source, followed at a significant distance by grants. CWS is the least common source for both by far.

In sum, African American students use all of the aid sources at relatively high levels followed by Hispanics. Their loan levels are second only to whites and their family support level is the lowest. Asian Americans and whites rely heavily on grants and family and much less on the other sources, although whites do have a relatively high loan level.

While it is important ot understand the sources of first year aid, the real test is the relationship of aid to

persistence in the first year. The dominant form of aid is grant support and the effects of having a grant in the first year are felt in the very first semester (Table 15). There are clear differences in both sectors between grant recipients and non-recipients. In both sectors at least 95 percent of the students who received grants remained enrolled through the first semester, including all the Asian Americans.

Among those not receiving grant support, there are some differences by sector. At independent colleges and universities at least one in five students left, including 30 percent of the African American students. The loss was not as great in the public institutions with Hispanics (82 percent) and whites (86 percent) somewhat more likely to continue, and Asian Americans (94 percent) much more likely than their independent counterparts. African American students are a different story. The loss in the public sector is slightly larger than in the independent with only 65 percent continuing through the first semester.

Students with grant aid are more likely to persist. However, any generalizations about aid are difficult to make because the receipt of aid is tied so closely to income and secondarily to academic performance. Both of these variables

TABLE 15

PERSISTENCE STATUS AFTER THE FALL 1980 SEMESTER
BY RECEIVING ANY GRANT, ETHNICITY, AND INSTITUTIONAL CONTROL

	Grant		No Grant	
	Persist	Leave	Persist	Leave
Hispanic				
Independent	94.3%	5.7%	75.9%	24.1%
Public	95.0%	5.0%	81.9%	18.1%
Asian American				
Independent	100%	0%	78.4%	21.6%
Public	100%	0%	94.4%	5.6%
African American				
Independent	94.6%	5.4%	69.4%	30.6%
Public	94.8%	5.2%	64.6%	35.5%
White				
Independent	95.9%	4.1%	79.7%	20.4%
Public	95.6%	4.4%	85.9%	14.1%

have been shown to have an influence on persistence. One does not know if the student left because of financial problems or academic or personal problems.

Correlational analysis

The previous discussion provides a picture of hte persistence behavior of undergraduates and the influence four important factors (institutional control, ability, SES, and first-year financial support) can have on specific ethnic groups. The next step is to attempt to identify variables which may correlate with persistence behavior to help explain the patterns for each ethnic group.

The large number of variables listed previously were correlated with persistence categories for each ethnic group at each start point. The data reported here are for students who started on track only due to problems with sample size for the delayed entrants once institutional control and ethnic are controlled. Only aid variables for the first year were entered because aid is a year-to-year phenomenon and effects beyond the first year may be only a function of enrollment or non-enrollment and not an indication of a true relationship. The first year aid correlations will be discussed separately.

It should be stated from the outset that the correlation levels are not very high for any persistence category in any ethnic group. Therefore the effort was made to look for patterns or networks of lower level correlations. The relationships discussed below have at least a .20 correlation and the vast majority are between .20 and .40.

In an effort to overcome small sample sizes, correlations were run first for two groups -- disadvantaged minorities (African Americans, Hispanics, and Native Americans) and others (whites and Asian Americans). The danger in combining whites and Asian Americans is clear, but the characteristics of the two groups in this sample are more closely related than are those of the disadvantaged minorities and Asain Americans.

Among the disadvantaged group, only high school grades correlated with completion and, not surprisingly, the relationship is positive. Three variables correlated with dropping out -- high school grades and test scores (both negative) and having a child within four years of high school (positive). The findings for whites and Asian Americans were similar for high school grades and test scores. There were several additional variables that correlated .20 or higher. Completing was positively associated with taking more science

courses in high school, coming from a higher SES family, and entering college on track. It was negatively associated with being married. Dropping out was positively associated with being married and negatively associated with taking more high school math and science courses.

By separating out the institutional sectors, however, additional variables appeared for particular groups. For disadvantaged students in the independent sector, completion is still associated with better grades, but also with more high school activities. Interestingly, taking advanced math and English in high school are negatively associated with completion and positively associated with dropping out. Lower grades and fewer high school activities are related to dropping out.

In the public sector, disadvantaged students also have a positive correlation between completion and high school grades and a negative correlation with being married. College grades in the fourth year enter positively with completion and negatively with dropping out. Dropping out is positively associated with being married and with having an external locus of control.

For whites and Asian Americans in the independent sector, the same relationships for high school grades and tests, and marital status appear with completing and dropping out. SES is positively correlated with completing and having a child is negatively correlated. Fewer high school sciences course is related to dropping out for these students.

In the public sector, high school grades have the expected relationship both to completing and to dropping out, but test scores are associated only with completing and high school science courses only negatively with dropping out.

Overall, the factors are more or less the same for all students regardless of ethnic composite or institutional control. The related variables are pre-collegiate in nature (high school grades, high school tests, high school course) or personal (marital status, children, family SES). The only collegiate variable that enters is grades for disadvantaged students in the public sector. By sorting out each ethnic group, however, new variables enter for specific groups.

For all Hispanic students (Table 16) completing a bachelor's degree is associated with having higher ability test scores and high school grades, especially in the

TABLE 16

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR HISPANIC STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

COMPLETION

Independent	Public
Took advanced math in high school (-.55)	Married within 6 years of h.s. (-.26)
High school grades (.54)	College grades (.23)
HA-LSES student (.42)	Academic ability test (.22)
Number of h.s. activities (.38)	H.S. grades (.20)
Academic ability test (.37)	Took advanced English in h.s. (-.20)
Took advanced English in high school (-.35)	
Hours watching TV (-.29)	
Received an institutional grant in the 1st year (.28)	
College grades (.23)	

TABLE 16
(Cont.)

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR HISPANIC STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

DROP OUT

Independent	Public
H.S. activities (-.46)	Married within 6 years of H.S. (.42)
Took advanced math in high school (.43)	Academic ability test (-.28)
Availability of financial aid (-.37)	Hours watched TV (.28)
Received academic counseling (.34)	Self concept (-.23)
HA-LSES student (-.34)	Received academic counseling (-.22)
H.S. grades (-.33)	Received financial counseling (.21)
Received work-study in 1st year (-.33)	Married within 4 years of H.S. (.20)
Took advanced English in H.S. (.30)	
College grades (-.28)	
Received a grant in 1st year (-.24)	
Hours watching TV (.24)	
Academic ability test (-.23)	
Family income (.22)	

independent sector. For those in the public sector not taking advanced English and never being married are also related to completing. Dropping out is related to lower ability test scores, and in the public sector, especially to being married and watching more television.

In independent colleges and universities, completion for Hispanic students correlates most with higher high school grades and not taking advanced math. Being a high ability/low SES student, having more high school activities, and not taking advanced English in high school are also important, as are higher college grades, watching less television. Dropping out in the independent sector is associated with most with fewer high school activities, taking advanced math and being concerned about the availability of financial aid. Receiving fianacial counseling, not being a HA/LSES student, lower high school grades, not receiving work study aid, and taking advanced English in high school correlate bwtween .30 and .34. Lower college grades, not receiving a grant, watching more TV, having lower test scores, and having a higher family income have the lowest level of relationship.

Most of these relationships make sense with the possible exception of advanced high school work for students in the

independent sector. This may be a function of being placed in more difficult college courses before these students can make the transition to the new environment which increases their stress, and diminishes their academic self confidence. In the case of the counseling variables, timing may be the key. By the time students sought counseling, the problem could have been to difficult to handle.

For African American students (Table 17) it seems that this data base does not tap many important variables, especially in the public sector. Ability test scores do not correlate with persistence for any student subgroup, and high school grades are associated only with completion in both the public and independent sectors.

There are only three variables that show a relationship in the public sector. Better high school and college grades are associated with completion, and having a more external locus of control is associated with dropping out. In the indpendent colleges and universities, there are more relationships. Completing is correlated with receiving an institutional grant, a higher income family, less concern about college expenses, better high school grades, being without children, receiving faculty tutoring, and graduating from a suburban high school. Dropping out is associated with

TABLE 17

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR AFRICAN AMERICAN STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

COMPLETION

Independent	Public
Received an institutional grant in 1st year (.26)	College grades (.23)
Family income (.23)	H.S. grades (.21)
Concern about college expenses (-.22)	
High school grades (.22)	
Suburban high school (.22)	
Received faculty tutoring in college (.20)	
Has children (-.20)	

DROP OUT

Independent	Public
Family income (-.26)	Internal locus of control (-.20)
Received faculty tutoring (-.24)	
Concern about college expenses (.21)	
Married within 6 years of H.S. (.20)	
Has children (.20)	

a lower income family, more concern about expenses, not receiving faculty tutoring, being married or having a child.

Although Asian Americans (Table 18) are the smallest group (with the exception of native Americans who are too small to analyze), they showed the largest number of correlations with persistence. For all students, regardless of the sector in which they were enrolled, higher SES and family income correlated with completion and lower SES and family income with dropping out, although in no case were these the highest correlations. Completion in both sectors was related to taking more high school English, coming from a suburban high school, and having higher ability test scores. Dropping out in both sectors was related to more external locus of control, not taking remedial math in high school and participating in the Upward Bound program.

There are also four variables associated with dropping out in both sectors but had opposite effects in each sector. Receiving personal counseling, and taking more high school math are associated with dropping out in the public sector while not receiving personal counseling and taking fewer high school math courses are associated with dropping out in the independent sector. Receiving an institutional grant is

TABLE 18

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR ASIAN AMERICAN STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

COMPLETION

Independent	Public
Concern about college expenses (-.71)	Received financial counseling (-.38)
Concern about financial aid (-.56)	Received personal counseling (-.37)
Took more math in H.S. (.48)	College grades (.32)
Married within 6 years of H.S. (-.45)	Academic ability test score (.29)
Took more English in H.S. (.44)	Received institutional grant in 1st year (.29)
Took more science in H.S. (.44)	Internal locus of control (.25)
Academic ability test (.43)	Took remedial math in high school (.24)
Received personal counseling in college (.43)	Socioeconomic status (.24)
Received work-study in 1st year (-.41)	Family income (.24)
Family support in 1st year (.40)	Suburban high school (.22)
Socioeconomic status (.35)	Female (.21)
High school grades (.34)	Took more English in high school (.20)
Family income (.32)	
Married within 4 years of H.S. (-.30)	

TABLE 18
(Cont.)

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR ASIAN AMERICAN STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

COMPLETION

Independent

Has children (-.30)

Received academic counseling in college (.29)

Male (.29)

Urban high school (-.28)

Suburban high school (.28)

Participated in Upward Bound in H.S. (-.27)

Took advanced math in high school (-.25)

Received a grant in 1st year (.25)

Hours of work (-.23)

College grades (.23)

TABLE 18
(Cont.)

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR ASIAN AMERICAN STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

DROP OUT

Independent

Concern about college expenses (.63)

Took more math in H.S. (-.57)

Married within 6 years of H.S. (.52)

Concern about financial aid (.51)

Academic ability test (-.42)

High school grades (-.41)

Received personal counseling (-.38)

Took more English in high school (-.36)

Received a grant in 1st year (-.36)

Received an institutional grant in first year (.35)

Married within 4 years of H.S. (.35)

Has children (.35)

Participated in Upward Bound (.34)

Public

Received personal counseling (.39)

Took more math in in H.S. (.37)

Received academic counseling (.37)

Family income (-.35)

Socioeconomic status (-.34)

Received institutional grant (-.30)

Internal locus of control (-.27)

Participated in Talent Search (.25)

Took remedial math in H.S. (-.24)

College grades (-.24)

Participated in Upward Bound (.20)

TABLE 18
(Cont.)

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR ASIAN AMERICAN STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

DROP OUT

Independent

Took more science in high school (-.33)

Took advanced math in high school (.33)

Received family support in first year (-.32)

Socioeconomic status (-.31)

Received financial counseling in college (.27)

Family income (-.26)

Took remedial math in college (-.25)

Female (.23)

Internal locus of control (-.22)

HA-LSES student (.21)

Hours of work (.20)

associated with dropping out in the independents and not getting one is associated in the public sector.

In the public sector, completing also is correlated with a more internal locus of control, taking remedial math in high school, having higher college grades, being a woman, and receiving less financial counseling in college. Dropping out is associated with the same variables but in the opposite direction and with participation in the Talent Search program.

In the independent sector, completing is associated with taking more high school math and science, not taking advanced math in high school, higher high school grades, fewer hours of employment each week, less concern about college expenses and financial aid, being a man, being unmarried and without children, and receiving academic counseling. Dropping out is correlated with each of these in the opposite direction and with being a HA/LSES student.

There are additional sector differences which should be noted. Men complete in the independents but women are more likey to finish in the publics. One only can guess but this may be a function of differential investment of resources in education for the two sexes.

White students (Table 19), like African Americans, show very few relationships between persistence and the variables in the data base. High school grades and ability test scores are positively associated with completion and negatively associated with dropping out regardless of sector. In the public sector there are no other variables related to completion, but taking less math in high school is associated with dropping out. In the independent colleges and universities, completing is correlated with a higher SES background and being unmarried. Dropping out is related only to being married and having children.

Among the non-financial aid variables, the correlations follow the thrust of the literature with high school grades and ability test scores appearing most frequently. They are not, however, the most powerful correlates for Hispanics, Blacks or Asian Americans. Marital status and having children are the next most likely variables to appear.

In the independent sector, financial concerns appear more often than in the public sector, as do high school course taking patterns. Socioeconomic status and family income correlate less than one might expect, but this may be a function of the homogeneity of each ethnic group.

TABLE 19

VARIABLES CORRELATING WITH COMPLETION OR DROPPING OUT AT .20 OR HIGHER FOR WHITE STUDENTS WHO STARTED ON TRACK BY INSTITUTIONAL CONTROL

COMPLETION

Independent	Public
High school grades (.29)	H.S. grades (.21)
Socioeconomic status (.25)	Academic ability test (.21)
Married within 4 years of high school (-.25)	
Academic ability test (.21)	

DROP OUT

Independent	Public
High school grades (-.30)	High school grades (-.21)
Married within 4 years of H.S. (.28)	Academic ability test (-.20)
Academic ability test (-.25)	Took more math in H.S. (-.20)
Has children (.20)	

Correlates persistence and first year aid

First year financial aid is is the final set of variables correlated with persistence. There is very little relationship between final persistence and first year aid. For African American and white students there are no correlations at the .20 level regardless of institutional control.

Nothing correlates for Hispanics in the public sector. For Hispanics in the independent sector, receiving an institutional grant is associated with completing, and having neither a grant nor college work-study support is associated with dropping out.

Among Asian Americans in the public sector, receiving a grant correlates negatively with dropping out, but that is the only correlation in the sector. In independent colleges and universities, completion is associated having a grant, having family support, and not receiving work study aid (although the sample size is very small in this group). Receiving an institutional grant correlates with dropping out.

At first glance, it would appear that first-year aid is not highly related to final persistence status. However, the real point may be that the aid has performed its function which is to level the playing field for all students. It is interesting to note that grant aid is virtually the only type of first-year aid to show a relationship. The earlier discussion of the differences in first-year persistence indicated a clear difference between grant recipients and non-recipients.

SUMMARY AND DISCUSSION

After all the descriptions and relationships are listed, what is it that we can say?

Minority students are more likely to choose a public institution for college, but by only a slim margin with the exception of Asian Americans. Asian Americans and whites are more likely to begin directly after high school especially in the public sector. In the independent sector Hispanic students enroll directly after high school in significantly smaller numbers than the other three ethnic groups.

Overall completion rates are not very high for any ethnic group, but they are much lower for Hispanic and

African American students. African American students appear either to complete or drop out rather than leave and return or continue to enroll. Asian American and Hispanic students are the most likely to continue with their education in some form rather than drop out.

If the students are separated according to the point at which they entered college, there is a decided increase in completion for those who began on the traditional track. The major beneficiaries of the effect are Asian Americans, whites and students in the independent sector (with the exception of Hispanics). The completion rate for African Americans and Hispanics still is three out of ten or fewer, about half the rate for the other two groups.

Students are most likely to leave the system in the first year, in fact in the first semester. For every group except Asian Americans, this is the point of greatest loss in the six-year time frame of the data base. The next major loss in the system is between the fourth year and the fifth year. In this case, however, many students actually complete their degrees and leave rather than drop out. Among Hispanics there is an early break point between the second and third years, especially in the independent sector.

At this point there seems to be an advantage to attending an independent college or university overall, for Asian Americans, for whites, and to a lesser extent African Americans. Only Hispanic students show no difference in persistence between sectors. All students benefit from beginning college directly after high school and full-time.

Based upon the literature on persistence and minority persistence in particular, socioeconomic status and academic ability should influence persistence behavior. Coupled with the assumption that the independent colleges and universities enroll more high SES and high ability students, the advantage to the independents could disappear when these factors are controlled.

A quick look at the SES distribution of the ethnic groups in the sample indicated that there is little difference between sectors, but significantly more Asian Americans and whites are in the high SES group. It is true that the high SES quartile students have the highest completion rates; this is especially true for the independent sector. Among Hispanic students, however, there is little difference among SES quartiles or across sectors, and the high SES students do not begin to approach the completion rates of any of the other three ethnic groups. It appears

that SES does not have a direct effect on the persistence of Hispanic undergraduates, but does influence the other groups to varying degrees.

The situation for academic ability (measured by an academic ability test given in high school) has a stronger effect than SES. For every group in each sector completion increases as test score increases with one exception. Among African American students, the students scoring in the highest quartile are less likely to complete and more likely to drop out than all other students except those in the lowest test score group. In each group there is an advantage to the independent sector with the single exception of Hispanics in the next to highest quartile. It should be noted, however, that the differences are generally higher in the higher scoring groups. This makes the finding for African Americans more puzzling. It is possible that these students are concentrated in the elite institutions which are predominantly white and the most competitive which could produce a negative environment.

It appears that ability has greater influence than SES in affecting persistence. This finding is in keeping with the major thrust of the literature. The anomalous situation for high test score African Americans is not easily

reconciled. Since the findings already show fewer relationships between persistence behavior and being African American, there may be other factors in the environment of this group of students which adversely affect their progress. It is important to note, however, that even in this group of students, there is an advantage to the independent sector.

One other point is that the independents have more difficulty with the lowest ability quartile minority students, especially Hispanics and Asian Americans, and do their best job with low quartile whites. One suspects that this has to do with the environment on campus and the "godness of fit" for the specific ethnic groups.

Taken together, SES and ability produce some interesting effects for public and independent institutions and ethnic groups. With the exception of white students, HA/LSES students are more likely to complete in the independent sector, and within that sector complete at a rate higher than the rest of the student body. The most dramatic cases are Hispanics who complete at nearly twice the percentage in the independent sector and at more than twice the rate of their independent peers, and Asian Americans all of whom complete in the independent sector -- twice the rate of their sector

peers. The differences for African Americans are present but not to an exaggerated degree. The within sector effect for the minority groups and for whites is likely to be a result of more non-HA/LSES students from low ability and low SES in the minority groups, and from high SES and high ability among whites. Whatever the case, there seems to be an advantage for minority students who are bright but poor in attending an independent institution.

Grants and family assistance are the most common forms of first-year financial aid across all ethnic groups, except African Americans who are more likely to have a loan than family support in the independent sector. Overall African Americans have the highest level of grant and college work-study and the lowest level of family support of any group. Whites and African Americans are more likely to have loans regardless of institutional sector. Grants are clearly the most common form of financial aid. In both sectors students' receiving grants in the first-year virtually ensures enrollment through the first semester, but students without grants drop out much more often in the crucial first semester. Beyond the first year, financial aid analysis becomes confounded by "the chicken and the egg" problem. Did students leave because of lack of aid or did they not receive aid because they left?

The final section of the study focused on the possibility of correlation between persistence status after six years and a variety of factors indicated by the literature. These were attempts to assess direct, main relationships and found few variables that correlate above .20 with any persistence category.

The most common correlates for all groups in both sectors were exactly what one would expect from the previous research and the earlier discussion of the crosstabulations. High school grades was the most often related, followed by marital status, and academic ability test scores. However, these variables were not a highly correlated as expected, and seldom were among the highest for minority students.

Not surprisingly, concern about college expenses and financial aid appeared only in the independent sector. Academic preparation in high school in terms of coursework and socioeconomic status were more likely to enter for these institutions too.

Occasionally a specific variable would appear for only one ethnic group. Television watching correlated with persistence only for Hispanics, and hours worked in a week was present only for Asian Americans.

Perhaps the most disappointing aspect of the correlational analysis was the relatively few variables in the data base that were associated with persistence for African Americans and whites. Perhaps these two groups are so homgeneous that restriction of range limits the possibility of correlation, or more likely, the most important factors for these students are environmental or psychological (e.g. motivation). It is also possible that dividing financial aid into its subgroups may have masked the effect of simply having or not having aid.

CONCLUSIONS

While the differences in persistence and completion rates between the public and independent sectors are influenced by some obvious factors such as ability level and to a lesser degree socioeconomic status, a difference remains to the advantage of students in the independent sector. The difference is most pronouced for students with high ability, with high ability from low SES backgrounds, and from high SES backgrounds.

While financial aid is a concern for minority students at entry, there is no compelling evidence that it is a major influence after matriculation on persistence behavior. In

fact receiving aid is tied to SES and ability and appears to be successful in its function of removing the effect of income and allowing ability to drive persistence.

It is also very clear that a wide range of variables, particularly those identified with the institutional environment and integration into that environment are not available and could be very useful in explaining the dynamics of the behavior described in this paper.

If there is one final point that should be made, it is that independent colleges and universities should be viewed as viable options by minority students (particularly high ability students) and that their likelihood of completing a bachelor's degree may increase if they enroll. At the same time, one must remember that attending is simply the start of the completing behavior, and that both the public and independent institutions as sectors still have a long way to go before minority students graduate in numbers equivalent to their enrollment and aspiration.

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